CLAIMS

1. A safety switching module characterised by comprising:

at least two switch control units each having a switch control input to receive a shut down signal and an output connected to a respective switch unit of a plurality of series connected switch units, such that the switch control unit opens the respective switch unit on receiving the shut down signal;

a switch monitoring means provided for each switch control unit, each switch monitoring means being arranged to monitor whether the respective switch unit is open or closed and thereby determine that a fault condition exists if the respective switch unit has not opened on receiving the shut down signal; and

an operation control input on at least one of the switch control units, the operation control input being connectable to an operation controller for controlling operation of the load;

wherein each of the switch control units is in communication with each other switch control unit such that each switch control unit can determine if fault conditions exist in any of the switch units and the or each switch control unit connected to the operation controller being arranged to open and close the respective switch unit in response to signals received from the operation controller unless any of the switch control units have a fault condition or a have received the shut down signal.

2. A safety switching module in accordance with claim 1, characterised in that the switch monitoring means comprises a monitoring input provided on each switch control unit, each monitoring input being connectable to a monitoring contact provided on the respective switch unit.

3. A safety switching module in accordance with claim 2, characterised in that the switch units each comprise a solenoid having the monitoring contact physically connected to the solenoid contacts.

4. A safety switching module in accordance with any one of the preceding claims, characterised in that the shutdown signal is generated by a shutdown switch having a plurality of contacts, each of the shut down switch contacts being connected to a switch control input of a respective switch control unit.

5. A safety switching module in accordance with any one of the preceding claims, characterised in that each of the switch control units comprise a processor, the processors being interconnected by a bus for the transfer of information, said information including whether any of the switch control units have detected a fault condition.

6. A safety switching module in accordance with any one of the preceding claims, characterised in that each of the switch control units communicates with the other switch control units to allow control of alternating switch units in response to operation control signals received on said switch control unit.

7. A safety switching module in accordance with any one of the preceding claims characterised in that an operation controller having multiple outputs is connected to the operation control inputs on multiple switch control units and the switch control units exchange information to determine if a control signal has been received on each of said operation control inputs and only control operation of the respective switch units if operation control inputs have been received on each of said operation control inputs.

8. A safety switching module in accordance with any of the preceding claims, characterised in that the safety switching module is provided with a bus interface for exchange of information between other safety switching modules.